



west virginia department of environmental protection

Division of Air Quality
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ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Application No.: R13-2823A
Plant ID No.: 041-00013
Applicant: Dominion Transmission, Inc.
Facility Name: Lightburn Extraction Plant
Location: Jane Lew, Lewis County
SIC Code: 1321
Application Type: Modification
Received Date: November 12, 2010
Engineer Assigned: Steven R. Pursley, PE
Fee Amount: \$2,000.00
Date Received: November 22, 2010
Complete Date: December 9, 2010
Due Date: March 9, 2011
Applicant Ad Date: November 17, 2010
Newspaper: *The Weston Democrat*
UTM's: Easting: 547.43 km Northing: 4,331.28 km Zone: 17
Description: Installation of a new auxiliary 150 kw generator.

DESCRIPTION OF PROCESS

The generator will be a Model QT-150 manufactured by Generac Power Systems, Inc. and is considered a certified engine conforming to the standards in 40 CFR 1048. The engine is rated at 150 kilowatts, 254 horsepower and is a 4-stroke, rich burn engine equipped with a three-way catalyst to reduce emissions of hydrocarbons, nitrogen oxides, and carbon monoxide. Air to fuel ratio controllers will be installed to ensure an optimum air/fuel mixture. The generator will be considered an emergency unit and operation will be limited by the permit to 500 hours per year.

SITE INSPECTION

A full on site inspection was performed by the Fred Teel of WVDAQ's enforcement section on May 6, 2009. The facility was found to be in compliance. To get to the facility go North from Charleston to Jane Lew. Take Exit 105 (Jane Lew Exit) and make a left on

County Road 7 (Berkin-Jane Lew Road). Stay on CR-7 until it intersects Route 19 (Main Avenue). Make a right on Route 19 and make the immediate left on Broad Run Road. Stay on Broad Run Road until it intersects County Road 1 (Old Mill Road/Fork River Road/Jacksons Mill Road) and make a right. Stay on CR 1 for about 500 yards and Lightburn Station is on the right.

ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

Controlled emissions from the emergency generator will be as follows:

| | Pounds per Hour | Tons per Year |
|-----------------|-----------------|---------------|
| PM ¹ | 0.04 | 0.01 |
| SO ₂ | 0.01 | 0.01 |
| NO _x | 0.02 | 0.01 |
| CO | 0.85 | 0.22 |
| VOC | 0.07 | 0.02 |
| HAPs | 0.07 | 0.02 |

¹PM is filterable + condensable and all PM is assumed to be PM_{2.5}.

REGULATORY APPLICABILITY

The following state and federal rules apply to the emergency generator:

STATE RULES

45CSR13 Permits for Construction, Modification, Relocation And Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits, and Procedures for Evaluation.

This modification is subject to 45CSR13 because the uncontrolled NO_x, CO and VOC emissions could exceed 6 pounds per hour and 10 tons per year.

45CSR30 Requirements for Operating Permits.

The addition of the emergency generator does not effect 45CSR30 applicability. The facility is an existing Title V major source.

FEDERAL RULES:

40 CFR 60 Subpart JJJJ Standards of Performance for Stationary Spark Ignition Internal Combustion Engines.

The permittee intends to install one 150kw natural gas fired backup generator. 40 CFR 60 Subpart JJJJ requires that subject engines meet specific emission standards. Specifically, the engine will have to meet the following emission limits:

| NO _x (g/hp-hr) | CO (g/hp-hr) | VOC (g/hp-hr) |
|---------------------------|--------------|---------------|
| 2.0 | 4.0 | 1.0 |

Since Dominion will install a certified engine in accordance with the rule per §60.4243(b)(1), no testing of the engine will be required. Additionally, since the engine Dominion will use was built before January 1, 2011, no monitoring is required by the rule.

The rule also limits maintenance checks and readiness testing of the engine to no more than 100 hours per year.

The facility also seems to be subject to the area source requirements of 40 CFR 63 Subpart ZZZZ. However, WVDAQ has not been delegated authority from USEPA to enforce the area source requirements of this rule. For all practical purposes though, compliance with 40 CFR 60 Subpart JJJJ should ensure compliance with 40 CFR 63 Subpart ZZZZ. It should be noted that the area source provisions of ZZZZ would apply because, although the compressor station is a major source of HAPs, the extraction plant is considered a minor source. For oil and gas production facilities, a major source of HAP emissions is determined at each surface site per §63.6585(b). A surface site is defined in §63.6670 as “any combination of one or more graded pad sites, gravel pad sites, foundation, platforms, or the immediate physical location upon which equipment is physically affixed.” Dominion claims that the extraction plant and compressor station are separate surface sights under this definition. However, the compressor station and extraction plant are still considered one source for Title V and PSD applicability purposes.

TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

The only non-criteria regulated pollutants that will be emitted from the emergency generator are the tiny amount of HAPs that are a normal product of natural gas combustion.

AIR QUALITY IMPACT ANALYSIS

Since this is a minor modification to an existing major stationary source, no modeling was performed.

MONITORING OF OPERATIONS

The only new monitoring required by the permit will be generator hours of operation.

CHANGES TO PERMIT R13-2823

The permit was put into the most recent boilerplate and section 13 was added to the permit.

RECOMMENDATION TO DIRECTOR

Information supplied in the application indicates that compliance with all applicable regulations will be achieved. Therefore it is the recommendation of the writer that permit R13-2823A for the installation of an emergency generator at the Lightburn Extraction facility near Jane Lew, Lewis County, be granted to Dominion Transmission, Inc.

Steven R. Pursley, PE
Engineer

Date